

A REVISION OF THE NEW WORLD SPECIES
OF THE GENUS *ERICHSONIUS* FAUVEL
(COLEOPTERA: STAPHYLINIDAE)

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ABSTRACT

Ten new species of the genus *Erichsonius* (Coleoptera: Staphylinidae) are described and illustrated. Seven of the 8 previously-described species from North America are recognised as valid and 1, *E. loxatus* (Horn), is identical with *E. patella* (Horn). A key is provided to distinguish the adults. In the New World, the genus is known only from America north of Mexico.

INTRODUCTION

Whilst resident in Jamaica, I collected a number of examples of 2 species of staphylinid which keyed to the genus *Erichsonius* in Blackwelder (1943). He recorded only 1 species from Jamaica, and its description fitted 1 of the 2 species I had collected. In trying to identify the other species, I became familiar with the characters of the genus *Erichsonius* in order to compare the species occurring in Jamaica with those of surrounding islands and continental areas. I found that not only neither of the 2 Jamaican species, but also none of the species recorded from America south of the United States, belonged to the genus *Erichsonius*, but rather to *Neobisnius* Ganglbauer. When I had examined a quantity of material, very little of which could be identified by means of existing keys, I thought it worthwhile to attempt to revise both genera as represented in the entire New World. This paper concerns only the genus *Erichsonius*. I shall deal with *Neobisnius* in a later paper.

MATERIAL AND METHODS

The material basic to this study was that of G. H. Horn's collection, now located in the Museum of Comparative Zoology (MCZ) at Harvard University. At the time the work preliminary to writing this paper was done, the majority of Horn's collection was in transfer between the Philadelphia Academy of Sciences and MCZ. Only one syntype (in each case labelled "lectotype" but never validly designated) of each of the species described by Horn, from Horn's collection was available to me. This has limited my selection of lectotypes for Horn's species. No new North American species properly belonging to the genus *Erichsonius* have been described since the paper by Horn (1884). Because I recognise more than twice the number of species recognised by Horn, distributional records published since 1884 and based only on Horn's key and descriptions may be misleading. Therefore I

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have ignored all published distributional records; the records given here are based entirely on material I have examined.

Individuals who loaned material of *Erichsonius*, either from their personal collections or from their institutional collections, are acknowledged below. Abbreviations are those used in the text for each collection and the name(s) of the individual(s) making the loans:

- (AFN) A. F. Newton, Cambridge, Massachusetts;
- (CAS) California Academy of Sciences; P. H. Arnaud;
- (CNC) Canadian National Collection; J. M. Campbell;
- (FSC) Florida State Collection of Arthropods; R. E. Woodruff;
- (IM) Ian Moore, Riverside, California;
- (INHS) Illinois Natural History Survey; M. W. Sanderson;
- (JHF) J. H. Frank, Vero Beach, Florida;
- (MCZ) Museum of Comparative Zoology; J. F. Lawrence, A. F. Newton, J. C. Scott;
- (SMKU) Snow Museum, University of Kansas; P. D. Ashlock;
- (TAMU) Texas A. & M. University; H. R. Burke;
- (USNM) United States National Museum; T. L. Erwin;
- (ZMN) Zoological Museum, Helsinki; T. Laitinen.

Approximately 750 adult *Erichsonius* were examined, including type material of all of the species described from North America. Nevertheless, the distribution of several species is broad, and there are obvious gaps in the distributional records. This situation contrasts with that in Africa, where Levasseur (1969) stated that the species are very localized in distribution. At least 1 male of every species was available, and this enabled me to illustrate the aedeagus of each species. For several species, examination of the aedeagus is essential to accurate identification, and its characters are helpful in all instances. Females of some species cannot be distinguished with confidence.

Cards of 3 × 10mm were used to remount specimens which had been dissected, in place of the more usual card points. Water-soluble glue (preferably 'Permapaste', a clear glue available in Jamaica) was used to fix the specimen and aedeagus securely to the card. This method of mounting specimens is not only very effective in preventing damage to and loss of parts of specimens, but facilitates preparation of drawings.

Drawings were made while viewing specimens through a stereoscopic dissecting microscope with zoom objective and a linear scale in 1 ocular. Specimens, or parts of specimens, were drawn on squared paper using measurements obtained from the linear scale. These pencil drawings were traced onto white card and completed in ink.

Considerable attention was paid to providing accurate distributional records naming: a) country, b) state or province, c) county, parish, or district, in addition to specific locality. Because a minority of the (frequently several decades old) labels gave all this information, particularly of category c), time was spent examining maps to obtain it; although several individuals provided help at various times, any errors are entirely my responsibility. Some of the labels, particularly older ones, gave only an abbreviation for the name of the state or province; lack of further information is unfortunate, but specimens bearing such labels provide, in several cases, the only records for certain states or provinces and have been listed in the text.

Erichsonius Fauvel

Erichsonius Fauvel, 1874:427 (not *Erichsonius* Schubert, 1911:32; not *Erichsonia* Westwood, 1849:210; not *Erichsonia* Dana, 1849:427; not *Erichsonia* Robineau-Desvoidy, 1863:481) (some originally-included species later transferred to *Neobisnius* Ganglbauer, 1895:464) in original sense, including *Neobisnius*: Blackwelder, 1943:440; Blackwelder, 1944:131; in restricted sense, excluding *Neobisnius*: Blackwelder, 1952:151; Smetana, 1958:140; Arnett, 1960:276; Lohse, 1964:172; Smetana, 1965:11; Coiffait, 1965, 843; Lévasseur, 1969, 881.

SYNONYMS: *Actobius* Fauvel, 1876:72; in original sense, including *Neobisnius*: Horn, 1884:223; Sharp, 1885:457; in restricted sense excluding *Neobisnius*: Ganglbauer, 1895, 465; Leng, 1920:106; Hatch, 1957:174.

Type species: *Staphylinus cinerascens* Gravenhorst, fixed by subsequent designation (Lucas, 1920:73) for the objective synonym *Actobius*.

Description: Body linear, not depressed; length (measured from the base of the labrum to the apex of sternum VIII of the abdomen) varying from 3.0 to 5.7mm. Head more or less quadrate, variably punctate, microsculpture more or less evident depending upon closeness of punctation and strigulose to rather squamous; without infra-orbital ridge; eyes moderately large and prominent; when comparing their length with that of the head, I have taken the length of the head as the distance between the nuchal constriction and the base of the labrum; labrum bilobed; antennae inserted in front of eyes, of 11 articles, with basal articles I and II distinctly broader than III, with distal articles IV to XI densely pubescent; maxillary palpus of 4 articles, all elongate, the last longer than the penultimate and subulate; labial palpi similar to maxillary but of only 3 articles; gular sutures posteriorly parallel and very close, but not united.

Pronotum scarcely broader than head, parallel-sided or broader at a point between 0.25 and 0.5 of length from anterior margin, slightly elongate, the surface variably punctate and with microsculpture which is strigulose to rather squamous; lateral margin of pronotum double, the lines united just behind the anterior angle; anterior coxal cavities open behind; anterior coxae large, exerted; mesosternum without transverse carina; mesocoxae larger, more flattened; posterior coxae almost triangular, contiguous; femora somewhat pilose, but not armed with strong setae; tibiae pilose and armed with strong setae, the setae of meso-tibiae most strongly developed; all tibiae with a ctenidium at inner edge of apex; anterior tarsi of male expanded, of female not expanded; posterior tarsi with article I shorter than article V.

First and second abdominal sterna absent; first abdominal tergum absent, second short, frequently hidden under elytra in normally-mounted specimens; intersegmental membranes of abdomen with a pattern of small, sclerotised areas arranged in longitudinal bands; sternum VIII of male with U- or V- shaped notch at apex, sternum VIII of female rounded. Aedeagus with biramous paramere.

REMARKS

Adults of *Erichsonius* may be distinguished from those of *Neobisnius* by the absence of a transverse mesosternal carina, by the distinct habitus, and by the aedeagus with biramous paramere; the paramere of *Neobisnius*

is simple or bifurcate, never fully biramous. The difference in width between article II and article III of the antenna, a character used by other authors to distinguish the genera, is a condition not very useful because some species of *Neobisnius* share it to some extent. Adults of the 2 genera may be distinguished from other genera (*Cafius*, *Philonthus*) by the distinctly subulate form of the last article of the maxillary palpus. The sparsely punctate species (*E. crescenti*, *E. patella*, *E. brachycephalus*, *E. parvus*, *E. texanus*, *E. pusio*, and *E. puncticeps*) (*E. patella* species group) have more widely-separated parameral rami and might be considered to form a distinct subgenus; of the remaining species, *E. fraterculus*, *E. inutilis*, and *E. rusticus* form a natural group based on aedeagal characters (*E. fraterculus* species group) whilst the remaining 6 species are closely related to each other (*E. cinerascens* species group).

Unlike *Neobisnius*, adults of *Erichsonius* are never brightly-coloured, at least in the North American species. Like *Neobisnius*, they are generally hygrophilous. Their more cryptic colouration is the most likely reason for the comparative paucity of material in collections (cf. *Neobisnius*) but this may also be indicative of a more secretive habit. Adults of at least some species are attracted to light, but light-trapping does not seem to have produced as much material of *Erichsonius* as it has of *Neobisnius*. I know of no published descriptions of the immature stages of any species of *Erichsonius*.

In the following key extensive use has been made of characters of the aedeagus, and for this reason it is not possible to key out females. A key based only on external characters would have been both longer and less accurate, as well as open to individual interpretation.

KEY TO NEW WORLD SPECIES OF *Erichsonius*

- | | | |
|--------|---|----------------------------|
| 1. | Head sparsely punctate; rami of paramere of aedeagus widely separated (fig. 1-8) (<i>E. patella</i> species group)..... | 2 |
| 1'. | Head densely punctate; rami of paramere of aedeagus approximate and parallel (fig. 9-18) | 9 |
| 2(1). | Length 3.0 to 3.5mm | 3 |
| 2'. | Length 4.5 to 5.5mm | 4 |
| 3(2). | Piceous; eyes larger, 0.45 length of head and head narrowed behind; (aedeagus fig. 7)..... | 7. <i>E. pusio</i> (Horn) |
| 3'. | Castaneous; eyes smaller, 0.33 length of head and head broadened behind; (aedeagus fig. 6) | 4. <i>E. parvus</i> (Horn) |
| 4(2'). | Apex of median lobe of aedeagus simply spatulate (fig. 4, 5, 8); from Texas and westwards..... | 5 |
| 4'. | Apex of median lobe of aedeagus with ridge or protuberance (fig. 1-3); from Texas and eastwards | 7 |
| 5(4). | Rami of paramere of aedeagus broadened and truncate at apex (fig. 4); elytra short (fig. 22); (eyes small, 0.27 length of head) | 6. <i>E. pomonae</i> sp.n. |
| 5'. | Rami of paramere of aedeagus narrow at apex (fig. 5, 8); elytra seldom short | 6 |

- 6(5'). Rami of paramere of aedeagus simple (fig. 8); from California 8. *E. puncticeps* (Horn)
- 6'. Rami of paramere of aedeagus lobed laterally (fig. 5); from Texas 5. *E. texanus* sp.n.
- 7(4'). Head transverse; apical notch of sternum VIII of male shallow, less than 0.5 as deep as broad; (aedeagus fig. 1)..... 3. *E. brachycephalus* sp.n.
- 7'. Head not transverse; apical notch of sternum VIII of male at least as deep as broad 8
- 8(7'). Head narrowed behind eyes; (fig. 19); (aedeagus fig. 3)..... 1. *E. crescenti* sp.n.
- 8'. Head not narrowed behind eyes; (aedeagus fig. 2)..... 2. *E. patella* (Horn)
- 9(1'). Rami of paramere of aedeagus broad at base (fig. 9-11); (*E. fraterculus* species group) 10
- 9'. Rami of paramere of aedeagus slender at base (fig. 12-18); (*E. cinerascens* species group)..... 12
- 10(9). Elytra 0.05 shorter than pronotum (fig. 24); (length 3.25 to 3.6mm) (aedeagus fig. 10) 10. *E. inutilis* (Horn)
- 10'. Elytra at least 0.15 longer than pronotum 11
- 11(10'). Length 3.4 to 3.75mm; head castaneous; elytra 0.15 longer than pronotum; (aedeagus fig. 9) 9. *E. fraterculus* (Horn)
- 11'. Length 4.25 to 4.6mm; head piceous; elytra 0.25 longer than pronotum; (aedeagus fig. 11) 11. *E. rusticus* sp.n.
- 12(9'). Rami of paramere of aedeagus broadened at midpoint of their length (fig. 12); (length 5.3 to 5.7mm; head nearly parallel-sided) 12. *E. rosellus* sp.n.
- 12'. Rami of paramere of aedeagus entirely slender (fig. 13-18) 13
- 13(12'). Median lobe of aedeagus gradually narrowed to apex, not curved, without protuberance (fig. 18) 17. *E. civicus* sp.n.
- 13'. Median lobe of aedeagus curved near apex, with or without protuberance (fig. 13-17) 14
- 14(13'). Apex of median lobe of aedeagus recurved, without protuberance (fig. 18) 16. *E. nanus* (Horn)
- 14'. Apex of median lobe of aedeagus not recurved, with protuberance (fig. 13-17) 15
- 15(14'). Length 5.0 to 5.5mm; head markedly broader behind the eyes; pronotum scarcely narrowed posteriorly (fig. 27); (aedeagus fig. 16) 13. *E. alumnus* sp.n.
- 15'. Length 4.5 to 5.0mm; head parallel-sided or narrowed posteriorly; pronotum distinctly narrowed posteriorly 16
- 16(15'). Median lobe of aedeagus slender (fig. 15); habitus more slender (fig. 29) 15. *E. floridanus* sp.n.
- 16'. Median lobe of aedeagus stout (fig. 17); habitus stouter (fig. 28) 14. *E. smetanai* sp.n.

E. patella species group

(Sparsely-punctate species with widely-separated parameral rami)

1. *Erichsonius crescenti* Frank, **new species**
(fig. 3, 19)

Description: Length 4.75 to 5.5mm. Head, pronotum and elytra castaneous to piceo-castaneous, abdomen fusco-castaneous to piceo-castaneous, with apical margin of each segment paler. Legs, antennae, and trophi ferruginous with last 2 articles of antenna paler.

Head quadrate, slightly narrowed posteriorly, broadest across the prominent eyes which occupy 0.35 of the length of the side of the head. Head shining, sparsely punctate with moderate punctures and strigulose microsculpture. Pronotum somewhat oval, slightly longer than broad, sparsely punctate with moderate punctures; an irregular row of 8 or 9 punctures on either side of impunctate midline, with additional irregular lateral punctures; microsculpture strigulose. Elytra not much wider than pronotum, slightly longer than jointly broad, closely, finely punctate. Abdomen slightly broadened, tapering posteriorly.

Antennae rather slender. Apical notch of sternum VIII of male deep (as deep as broad) and narrow. Aedeagus broad to apex; the parameral rami curved outwards just before their apices (fig. 3).

Types:² I have designated as holotype a male from MCZ bearing the following labels: Framingham Mass XI 7-50 C. A. Frost/ sifting/ *Actobius loxatus* Horn/ C. A. Frost Collection 1962/ *Erichsonius crescenti* male J. H. Frank HOLOTYPE. This specimen is mounted on a card point; on a second point on the same pin is a female specimen here designated as paratype to which I have added a label: *Erichsonius crescenti* female J. H. Frank PARATYPE. The specific epithet is derived from Crescent City, Florida, the origin of the first specimen I saw. All examples listed under records are paratypes.

Type locality: Massachusetts, Middlesex Co., Framingham

Distribution: U.S.A.: Massachusetts, Illinois, N. Carolina, Florida, Louisiana

Records: U.S.A.: Massachusetts, Middlesex Co., Framingham, 14-X-1934, sifting, C. A. Frost (1 male, 1 female: MCZ); 22-III-1946, sifting, C. A. Frost (1 male: MCZ); 7-XI-1950, sifting, C. A. Frost (holotype male and paratype female: MCZ); 28-III-1931, C. A. Frost (4:CNC); Tyngsboro, V-1903 (1:MCZ), Natick, 9-IV-1933, sifting, C. A. Frost (2:MCZ); Bristol Co., Dighton, X, N. S. Easton (1:MCZ); [county and locality unspecified, ex Blanchard collection] (6:MCZ); Illinois, [county and locality unspecified] (1:MCZ); N. Carolina, Macon Co., Highlands, VI-1888 (1:MCZ); Florida, Putnam Co., Crescent City, Hubbard and Schwarz (1 male: USNM); Louisiana, Rapides Par., Magnolia Recr. Area, 15 mi. S.W. of Alexandria, 4-X-1973, pine-hardwood leaf litter, stream edge, A. F. Newton (1 male, 1 female: AFN).

Remarks: The distributional ranges of this species, of *E. patella*, and *E. brachycephalus* overlap, but no difficulty should be experienced in separating even the females of the 3 species; the size of the eyes and the shape of the head of *E. crescenti* (fig. 19) provide sufficient diagnostic characters.

²All labels contain male and female symbols, but for ease in typesetting these are spelled out in all records reported herein.

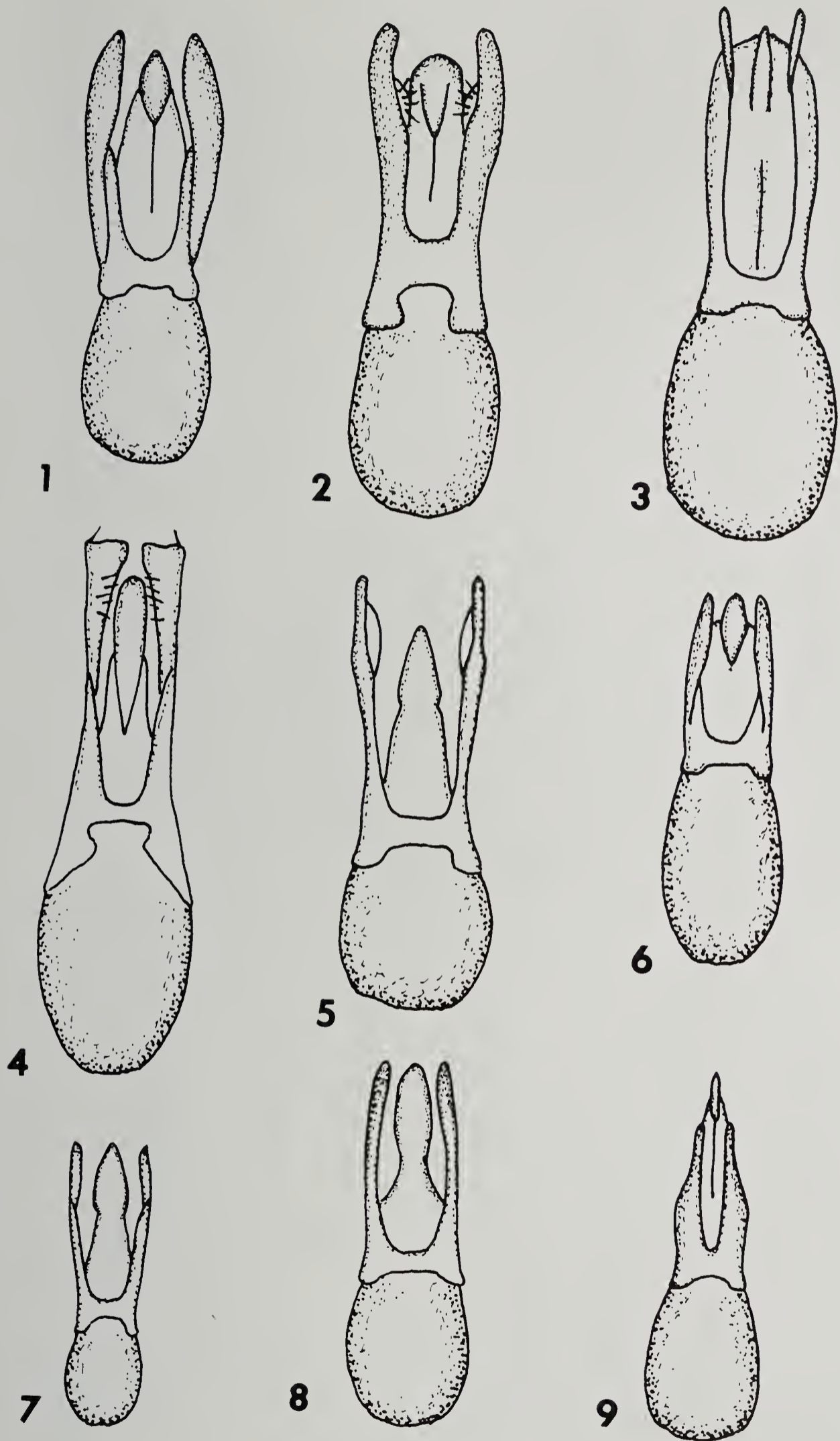


Fig. 1-9 *Erichsonius* aedeagi (ventral views): 1) *brachycephalus*, 2) *patella*, 3) *crescenti*, 4) *pomonae*, 5) *texanus*, 6) *parcus*, 7) *pusio*, 8) *puncticeps*, 9) *fraterculus*. All to same scale.

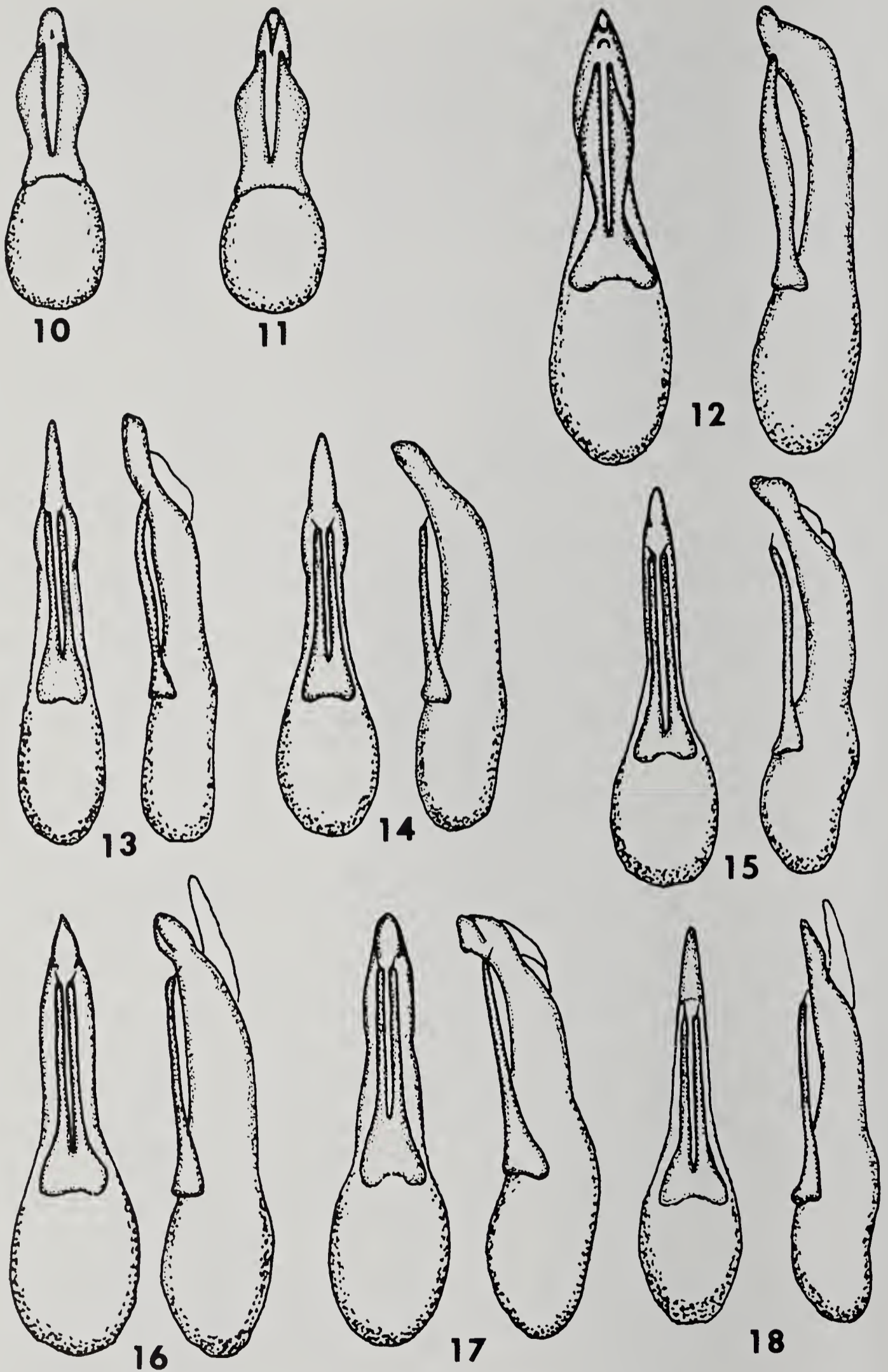


Fig. 10-18 *Erichsonius* aedeagi: 10) *inutilis*, 11) *rusticus*, 12) *rosellus*, 13) *nanus*, 14) *cinerascens*, 15) *floridanus*, 16) *alumnus*, 17) *smetanai*, 18) *civicus*. Fig. 12-18 include lateral as well as ventral views, all to same scale.

2. *Erichsonius patella* (Horn)
(fig. 2)

Actobius patella Horn, 1884:229 (type locality: Michigan); Bernhauer and Schubert, 1914:325; Leng, 1920, 106

New synonymy: *Actobius loxatus* Horn, 1884, 229 (type locality: District of Columbia); Bernhauer and Schubert, 1914:325; Leng, 1920:106.

Description: Length 4.75 to 5.5mm. Very similar to *E. crescenti*, but with eyes slightly smaller (0.31 of length of head) and head not narrowed posteriorly; with pronotum and elytra more distinctly longer than broad. Aedeagus (fig. 2) distinct from that of *E. crescenti* (fig. 3). Apical notch of sternum VIII of male as deep as broad. Coloured as *E. crescenti*.

Types: A male specimen in MCZ bears the following labels: Mic./male/lectotype 3104 [red]/*A. patella* Horn. I have designated this specimen as lectotype of *Actobius patella* Horn. A male specimen in MCZ bears the following labels: D.C./male/lectotype 3110 [red]/*A. loxatus* Horn, I have designated this specimen as lectotype of *Actobius loxatus* Horn.

Distribution: CANADA: Quebec, Ontario; U.S.A.: New Hampshire, New York, Massachusetts, Pennsylvania, Indiana, Illinois, Michigan, New Jersey, District of Columbia, Kentucky, Tennessee, W. Virginia, Virginia, N. Carolina, Louisiana

Records: CANADA: Quebec, Gaspé Ouest Co., Gaspesie Park, Lac du Diable, 12-VII-1972, 1500 ft., J. M. and B. A. Campbell (1 male: CNC); Gatineau Co., Gatineau Park, Ramsay Lake Area, 23-V-1971, J. M. Campbell (4:CNC); Ontario, Renfrew Co., Mt. St. Patrick Mine, 10 mi. S. of Renfrew, 13-X-1970, leaf-wood litter, S. Peck (7:CNC); U.S.A.: New Hampshire, Belknap Co., Three Mile Island, 29-VI-1901, C. Merton (2:MCZ), 8-V-1927 (1:MCZ); Cheshire Co., Marlborough, Mt. Monadnock, 12-14-VI-1970, human dung, S. Peck (1:CNC); New York, Hamilton Co., Piseco Lake, 29-V-1927, C. A. Frost (1:MCZ); Orange Co., West Point, 8-V-1916, W. Robinson (5:USNM); Nassau Co., Sea Cliff, VIII (1:MCZ); Massachusetts, Middlesex Co., Watatic, 8-IX-1888 (1:MCZ), Townsend, 19-IV-1894 (1:MCZ), Natick, 24-VII-1930, sifting leaves, C. A. Frost (2:MCZ), 23-XI-1930, C. A. Frost (1 female: TAMU), Hopkinton, 9-V-1926, at sap, C. A. Frost (1:MCZ), Middlesex Fells, 1-X (3:MCZ), Sherborn, 12-XI-1920, C. A. Frost (4:MCZ), Tyngsboro, 24-IX-1893 (1), X-1893 (1), 22-X-1893 (2), 17-VI-1894 (1), 20-X-1895 (1), V-1897 (1) (all MCZ), Framingham, 6-V-1933, C. A. Frost (2:MCZ), 6-V-1944, sifting, C. A. Frost (2:INHS), 26-XI-1946, C. A. Frost (1:IM), 9-V-1956 (1:CNC); Norfolk Co., Brookline, 23-III-1900 (1:MCZ); Suffolk Co., Dorchester, 2-XI-1902, sifting oak leaves (8:MCZ); Berkshire Co., Gt. Barrington, 8-VIII-1902, N. S. Easton (1:MCZ); Pennsylvania, Franklin Co., Pen Mar, Hubbard and Schwarz (3:USNM); Philadelphia Co., Manayunk, X (1:CNC), Philadelphia, VII (1:CNC), Chestnut Hill, 15-IV (12), 6-V (1), 27-V (3), 24-VI (1) (all MCZ); Indiana, Putnam Co., 17-X-1904 (2:MCZ); Illinois, Cook Co., Palos Park, 14-XI-1932, soil covering sample, Frison and Ross (1:INHS); Ogle Co., White Pines Forest State Park, 14-VII-1944, in ground cover, Frison and Sanderson (5:INHS); Jackson Co., Giant City State Park, 22-VIII-1944, Leighton and Sanderson (4:INHS); Michigan, Oakland Co., Clarkston (1:USNM); Wayne Co., Detroit, winter, Hubbard and Schwarz (1:USNM), IX (1:SMKU); [county and locality unspecified] (lectotype male of *Actobius patella* Horn: MCZ); New Jersey, Morris Co., Boonton, 8-VII-1901 (1:USNM), Mt. Arlington, IX (1:SMKU); District of Columbia, 30-III (1), 1-V (1), 20-IX (1), 28-IX (1) (all Hubbard and Schwarz, USNM), (2:CNC), (lectotype male of *Actobius loxatus* Horn: MCZ); Kentucky, Powell Co., Slade, 25-VIII-1967, ex mushrooms, J. M. and B. A. Campbell (1:CNC); Tennessee, Sevier Co.,

Gatlinburg, 13-IX-1941, Quirafeld (2:MCZ); W. Virginia, Summers Co., 12 mi. N. of Athens, rte. 20, 16-VI-1971, funnel extract of mixed litter, W. A. Shear (2:CNC); Raleigh Co., Beckley, Grandview State Park, 8-VI-1971, *Rhododendron* litter, W. Platnick (1 male: CNC); Virginia, Albemarle Co., Afton, Hubbard and Schwarz (3:USNM); Lee Co., Cumberland Gap N. P., Skylight Cave, 10-VII-1971, W. A. Shear (3:CNC); Bath Co., Warm Springs (4:CNC); N. Carolina, McDowell Co., Round Knob, 21-VI (1), 23-VI (1), 24-VI (3) (all Hubbard and Schwarz, USNM); Buncombe Co., Black Mt., VIII (3:CNC); Louisiana, Rapides Par., Magnolia Recr. Area, 15 mi. S. W. of Alexandria, 4-X-1973, pine-hardwood leaf litter, stream edge, A. F. Newton (4 males, 4 females: AFN).

Remarks: After I examined the lectotype males of *Actobius patella* and of *Actobius loxatus* I concluded that they are identical in all respects. Horn (1884) stated that *A. loxatus* differed from *A. patella* by the less densely punctured elytra, which are also more shining and by the male sexual characters, implying a supposedly differently-shaped notch of sternum VIII. However, the 2 lectotypes are from Horn's collection and are from the appropriate type localities. I am unable to distinguish them according to the differences mentioned by Horn, and I find the aedeagi to be identical. Further, I cannot separate *E. patella* and the 2 similar species (*E. brachycephalus* and *E. crescenti*) on the basis of the characters as given by Horn. The name *Actobius loxatus* is a synonym of *Actobius patella*, whose description occurs first on page 229 of Horn's publication.

3. *Erichsonius brachycephalus* Frank, new species (fig. 1, 20)

Description: Length 4.75 to 5.5mm. Head dark castaneous, pronotum and elytra castaneous, abdomen infusate with apical margin of each segment paler. Legs, antennae and trophi ferruginous with articles II-X of antenna somewhat infusate.

Head transverse, eyes occupying 0.37 of its length; only slightly narrowed posteriorly; sparsely and rather coarsely punctate; microsculpture between coriaceous and squamous. Pronotum slightly broader than head, slightly longer than broad; sparsely and rather coarsely punctate; microsculpture between coriaceous and squamous; an irregular row of 9-10 punctures on either side of impunctate midline and with additional lateral punctures. Elytra longer than jointly broad, broader than pronotum, finely and densely punctate and pubescent. Abdomen slightly broader at segments V and VI, finely and densely punctate and pubescent. Apical notch of sternum VIII of male shallow, less than 0.5 as deep as broad.

Types: I have designated as holotype a male specimen from MCZ bearing the following labels: Anglesea 5-28 [or 29] N. J./ Liebeck Collection/*Erichsonius brachycephalus* male J. H. Frank HOLOTYPE. All examples listed under records are paratypes.

Type locality: New Jersey, Cape May Co., Anglesea.

Distribution: U.S.A.: Maine, Massachusetts, New Jersey, Illinois, Texas

Records: U.S.A.: Maine, Oxford Co., Bethel (4:MCZ); Massachusetts, Middlesex Co., Lowell (2:MCZ), Tyngsboro (1:MCZ), Framingham, 21-V-1944, C. A. Frost (1 male: CNC); Plymouth Co., Marion (1 male: MCZ), 27-VII-1904 (1:MCZ); Barnstable Co., Hyannis, 24-VIII-1904 (1:MCZ); Illinois ["N. Ill."] (1 male: MCZ); New Jersey, Cape May Co., Anglesea (holotype male and 1 female: MCZ); [county and locality unspecified,

ex Blanchard collection] (7:MCZ); Texas, Tarrant Co., Handley, 7-IX-1905, W. D. Pierce (1 male: USNM), F. C. Pratt (1 female: USNM); Kerr Co., Kerrville, 5-IV-1959, light trap, Becker and Howden (1:CNC).

Remarks: *E. brachycephalus* differs from the 2 preceding species by the transverse head, slightly more expanded anterior tarsi of the male, markedly shallower and broader apical notch of sternum VIII of the male and distinct aedeagus (fig. 1) with median lobe with a rhomboidal ridge-like protuberance at the apex and parameral rami rather broad, twisted and slightly curved.

4. *Erichsonius parvus* (Horn) (fig. 6)

Actobius parvus Horn, 1884:230 (type locality District of Columbia); Bernhauer and Schubert, 1914, 325; Leng, 1920, 106.

Description: Length 3.0 to 3.5mm. Head, pronotum, and elytra castaneous; head somewhat darker than pronotum; elytra indefinitely paler at suture and apical margin. Abdominal segments infuscate at base, broadly paler at apical margin. Legs pale ferruginous; antennae pale ferruginous with articles III-IX infuscate; maxillary palpi very pale ferruginous.

Head quadrate; eyes not very prominent, occupying 0.33 length of head; head broadened behind the eyes, shining, sparsely punctate with moderate punctures; with indistinct strigulose microsculpture. Pronotum broader than head, slightly elongate, oval; sparsely punctate; with indistinct strigulose microsculpture; with an irregular row of 8-9 punctures on either side of impunctate median line and additional irregular lateral punctures. Elytra longer than jointly broad, broader than pronotum; rather sparsely punctate. Abdominal terga finely, densely punctate. Anterior tarsi of male somewhat dilated. Apical notch of sternum VIII of male shallow, scarcely evident. Aedeagus distinct (fig. 6), the apex of the median lobe with a rhomboidal protuberance, the rami of the paramere slightly curved and twisted, similar to that of *E. brachycephalus*, but smaller.

Types: I have designated as lectotype a female specimen from Horn's collection in MCZ bearing the following labels: D.C./ lectotype 3112 [red]/ *Actobius parvus* Horn.

Distribution: U.S.A.: Massachusetts, District of Columbia, Virginia, S. Carolina, Louisiana

Records: U.S.A.: Massachusetts, Middlesex Co., Framingham, 12-III-1910, C. A. Frost (1:USNM), 14-III-1931, sifting, C. A. Frost (1:MCZ), 18-V-1935, sifting, C. A. Frost (2:MCZ), Natick, 23-IV-1933, sifting, C. A. Frost (1:MCZ), Tewksbury (1:MCZ), Dracut, 6-III-1886 (3:MCZ), Sherborn, 15-X-1950, sifting, C. A. Frost (1:MCZ), Tyngsboro, XII-1873 (5:MCZ), 21-IV-1895 (1:MCZ), 1-X-1923 (1:MCZ), Tyngsboro, Merrimack River, 25-IV-1901, drift (4:MCZ); District of Columbia (lectotype female: MCZ); Virginia, Fairfax Co., Greatfalls, VI (1:MCZ); S. Carolina, Florence, 25-I-1928 (1:MCZ); Louisiana, Madison Par., Tallulah, 25-V-1934, J. W. Folsom (1:MCZ); [state, county, and locality unspecified, ex Kaeber collection and Wickham collection] (12:USNM).

Remarks: Horn (1884) gave the distribution as "... from Michigan to the District of Columbia," but he did not designate a holotype. The lectotype selected is from Horn's collection, from the District of Columbia and agrees with the original description. The species is related to *Erichsonius*

brachycephalus, but is considerably smaller and differs in the shape of the head. It is distinguished from the other small, sparsely punctate species, *E. pusio*, by its paler colour (not piceous), smaller eyes (0.33 cf. 0.45 length of head) and head broadened behind the eyes (cf. narrowed).

5. *Erichsonius texanus* Frank, **new species**
(fig. 5, 21)

Description: Length 5.0mm. Head nigrous; pronotum dark castaneous; elytra and abdomen castaneous; legs, antennae and trophi ferruginous, articles III-VI of antenna rather darker.

Head quadrate, very slightly longer than broad, scarcely narrowed behind eyes which occupy 0.37 length of head; sparsely punctate with moderate punctures; microsculpture strigulose to coriaceous; slightly narrower than pronotum. Pronotum oval, longer than broad; sparsely punctate with moderate punctures; an irregular series of 8-9 punctures on either side of impunctate median line and with additional lateral punctures; microsculpture strigulose to coriaceous. Elytra wider than pronotum, longer than jointly broad; finely, densely punctate. Abdomen slightly tapering posteriorly and not noticeably wider at segments IV and V; finely, densely punctate. Anterior tarsi of male somewhat dilated. Apical notch of sternum VIII of male rather broad, not shallow. Aedeagus distinct (fig. 8), the median lobe slightly lobed at the apex, the rami of the paramere almost straight, but lobed near their apex; similar to that of *E. puncticeps* (fig. 8).

Types (localities, distribution, and records): I have designated as holotype a male specimen from MCZ bearing the following labels: N. Braunsfels VI-13-27 Tex Darlington/ *Erichsonius texanus* Frank male J. H. Frank HOLOTYPE; as paratype a male specimen from CAS labelled: TEXAS: San Antonio VI-25-1942 E. S. Ross/ *Erichsonius texanus* Frank male J. H. Frank PARATYPE.

Remarks: The species is related perhaps most closely to *E. puncticeps*, but is paler, rather broader, with the punctures of the head and pronotum not as coarse and with the aedeagus distinct (fig. 5 cf. fig. 8); it is distinguished from *E. brachycephalus*, which also occurs in Texas, by the distinct shape of the head (not transverse) and distinct aedeagus (fig. 5 cf. fig. 1) with lobed parameres.

6. *Erichsonius pomonae* Frank, **new species**
(fig. 4, 22)

Description: Length 4.5 to 5.0mm. Head, pronotum, elytra, and abdomen castaneous to fusco-castaneous; legs, palpi and antennae ferruginous, the last 3 to 4 articles of the antenna distinctly paler than the basal 7 to 8.

Head quadrate, hind angles rounded; with rather sparse, large punctures and only a trace of strigulose microsculpture; eye occupying 0.27 length of head. Pronotum scarcely longer than broad, broadest anteriorly and here slightly broader than head; with sparse, large punctures. Elytra jointly no wider than pronotum, scarcely longer than broad, rather sparsely punctate. Abdomen slightly tapering posteriorly, more finely and densely punctate than elytra. Anterior tarsi slightly dilated in both

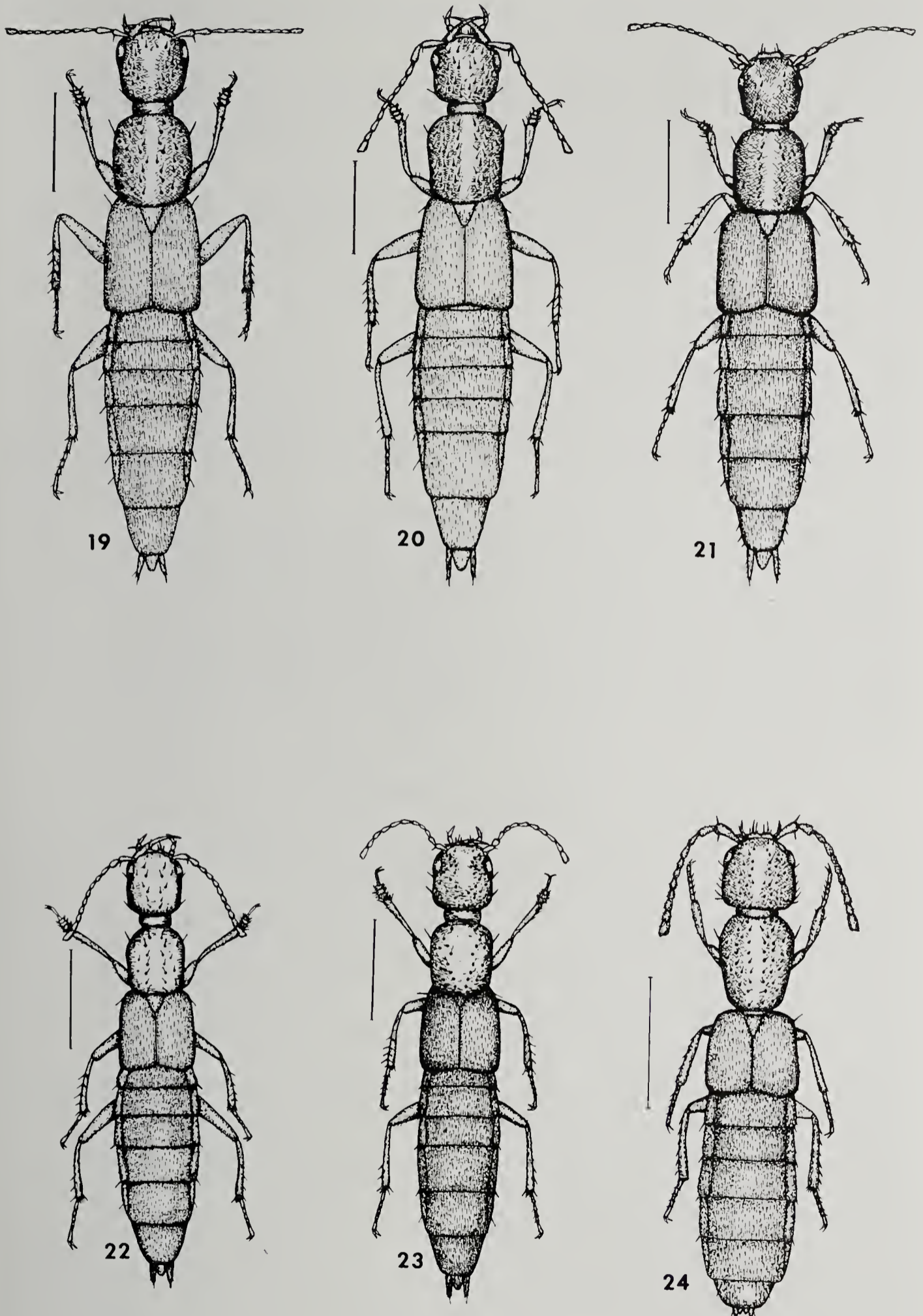


Fig. 19-24 *Erichsonius* adults: 19) *crescenti*, 20) *brachycephalus*, 21) *texanus*, 22) *pomonae*, 23) *puncticeps*, 24) *inutilis*. The scale line represents 1 mm.

sexes but more so in male. Apical notch of sternum VIII of male very small, as deep as broad. Rami of paramere of aedeagus expanded and truncate at the apex (fig. 6).

Types: I have designated as holotype a male specimen from CAS with the following labels: Mt. Wilson Cal. 2000 5-26-18/ J. O. Martin Collection/ *Erichsonius pomonae* Frank male J. H. Frank HOLOTYPE. All examples recorded below are paratypes.

Type locality: California, Los Angeles Co., Mt. Wilson.

Records: U.S.A.: California, Los Angeles Co., Pomona Mts., H. C. Fall (2 males: CAS; 2 males: MCZ), Mt. Wilson, 26-V-1918, 2,000 ft. (holotype male: CAS; 1 female: CNC) [county and locality unspecified] (5:MCZ).

Remarks: This species is similar in appearance to *E. puncticeps*, but it is generally rather paler and with the elytra shorter than typical for *E. puncticeps* and the eyes smaller. The microsculpture of the head and pronotum is more pronounced than in *E. puncticeps*, the head appearing less narrowed posteriorly with punctures deeper and less sparse, the apical notch of sternum VIII of the male is narrower and V-shaped rather than U-shaped. The aedeagus (fig. 6) with parameral rami expanded at the apex is very distinct from that of *E. puncticeps* (fig. 8) with parameral rami simple, even though this may be its closest congener. One of the male specimens from MCZ (county and locality unspecified) is from the Horn collection and was placed under *E. puncticeps*; it thus seems likely that Horn had seen at least 1 specimen of *E. pomonae*, but had taken it to be *E. puncticeps*. The specific epithet is derived from Pomona, even though I have selected a holotype from Mt. Wilson, because the labels of the type provide slightly more information.

7. *Erichsonius pusio* (Horn) (fig. 7)

Actobius pusio Horn, 1884:230 (type locality Garland, Colorado); Bernhauer and Schubert, 1914:325; Leng, 1920:106.

Description: Length 3.0 to 3.5mm. Similar in appearance to *E. parvus* but darker, more piceous, with eyes larger (0.45 length of head cf. 0.33), head narrowed behind the eyes, pronotum less elongate, aedeagus distinct (fig. 7 cf. fig. 6). Apical notch of sternum VIII of male broad, shallow. Aedeagus (fig. 7) much smaller than that of *E. puncticeps* (fig. 8), but with a marked similarity; these 2 species are distinct in size range.

Types: a male specimen from Horn's collection in MCZ bears the following labels: Garland 25.6. Col./ 198/ Lectotype 3113 [red]/ *Actobius pusio* Horn. I designate this specimen as lectotype of *Actobius pusio* Horn.

Distribution: CANADA: Quebec, Ontario, British Columbia; U.S.A.: Massachusetts, Michigan, Illinois, Colorado, Utah, N. Carolina

Records: CANADA: Quebec, Portneuf Co., St. Augustin, 8-VIII-1963, J.-C. Aubé (1:CNC); Ontario, Hastings Co., Marmora, 10-VII-1952, J. B. Vockeroth (1 male: CNC); British Columbia, E. Kootenay Distr., 10 mi. S. of Canal Flats, 11-VII-1968, Campbell and Smetana (2:CNC); U.S.A.: Massachusetts, Middlesex Co., Dracut, 14-II-1886 (3:MCZ), Cambridge, 11-I-1874 (1 male: MCZ), Natick, 22-IV-1934, sifting, C. A. Frost (1:MCZ); Norfolk Co., Brookline, 19-IV-1894 (1 male: MCZ), III (1 male:MCZ); Barnstable Co., Provincetown, Cape Cod National Seashore, Province Lands, 17-IV-1971, funnel extract of oak-beech leaf litter, S. Peck (1:CNC); N. Carolina [county and locality unspecified] (3:INHS); Michigan ["Ag.

Coll. Mic.", probably Ingham Co., East Lansing] (1:MCZ); Illinois, Marion Co., Kinmundy, 17-V-1967, J. M. Campbell (4:CNC); Lake Co., Lake Zurich, 16-III-1933, in windrow sample, Frison and Mohr (1:INHS); Colorado, Costilla Co., Garland, 25-VI (lectotype male of *Actobius pusio* Horn: MCZ); Utah, Utah Co., Provo, VI-1896, H. F. Wickham (1:MCZ).

Remarks: The lectotype selected is from Garland, Colorado, from Horn's collection and agrees with the original description. The species is not easily confused with any other known North American species because of its small size, dark colour, and sparsely punctate head and pronotum; the eyes are larger and the head more narrowed posteriorly than *E. parvus*.

8. *Erichsonius puncticeps* (Horn)
(fig. 8, 23)

Actobius puncticeps Horn, 1884:230 (type locality southern California); Bernhauer and Schubert, 1914:325; Leng, 1920:106.

Description: Length 4.5 to 5.0mm. Head, pronotum, elytra, and abdomen dark castaneous to piceous. Legs, trophi, and antennae ferruginous to fusco-ferruginous.

Head quadrate, broadly rounded and slightly narrowed behind the eyes which occupy about 0.36 of the length of the head; strigulose microsculpture scarcely evident; punctation sparse. Pronotum not narrowed posteriorly; broadly rounded anteriorly and posteriorly; marginally longer than broad; sparsely punctate; strigulose microsculpture scarcely evident. Elytra only about 0.10 longer than broad; scarcely broader than pronotum; finely and densely punctate. Abdomen almost linear; scarcely narrower than elytra; finely and densely punctate; apical notch of sternum VIII of male very small, U-shaped. Aedeagus (fig. 8) with median lobe spatulate and without ridge or protuberance; with parameral rami simple.

Types: A female specimen from Horn's collection in MCZ bears the following labels: So. Cal./ Lectotype 3111 [red] *Actobius puncticeps* Horn. I designate this specimen as lectotype of *Actobius puncticeps* Horn.

Distribution: U.S.A.: Arizona, California

Records: U.S.A.: California, Contra Costa Co., Marsh Creek Springs, 22-V-1954, H. B. Leech (1 female: CNC); Inyo Co., Argus Mts., V-1891 (4:USNM), Bishop, 15-VI-1905 (1:CAS), Buckhorn Spring, 2-XI-1971, D. Giuliani (2:IM), 29-IX-1971, D. Giuliani (1:IM), IV-1971, in soil near water, D. Giuliani (1:IM), Deep Springs Valley, Deep Spring I-1971, under rocks etc. around springs, D. Giuliani (1:IM), II-III-1971, under rocks etc. around springs, D. Giuliani (1 male: IM), Panamint Mts., IV-1891 (1:USNM); Lake Co., Middletown, 29-V-1949, H. B. Leech (1 male, 1 female: CAS); Los Angeles Co., [locality unspecified] (1:USNM), Burbank, 28-IV-1918 (1:CAS), Los Angeles, 21-IV-1918 (1:CAS), Pomona, 11-I-1893 (1 female: SMKU), Redondo, III (1:CAS), Saugus, 28-IV-1918 (1:CAS); Marin Co., Camp Taylor, 17-VI-1904 (1:CAS), Lagunitas, 27-VI-1893 (3:CAS), San Anselmo, 16-IV-1904 (1:CAS); Mendocino Co., [locality unspecified] (1:CAS); Mono Co., Fish Slough, 6-I-1972, under rock near spring, D. Giuliani (1 male: IM), Hot Creek Hot Springs, 8-IV-1971, under rocks near springs, D. Giuliani (1:IM), Topaz, 4-V-1972, R. Orth (2:IM); Monterey Co., Carmel Valley, 15-VIII-1956, I. Moore (1 male: CNC), Monterey, 24-VI-1916 (2:CAS); San Diego Co., Campo Creek, 15-IV-1951, I. Moore (1 male: CNC), Mission Valley, 5-VII-1950, I. Moore, (1 female: CNC), Pine Valley, 20-IV-1955, I. Moore (1 female: CNC), Potrero, 11-VI-1950, I. Moore (1 male: CNC), San Diego, X, F. E. Blaisdell (1:CAS); San Francisco Co., San Francisco, 16-VII-1908, F. E. Blaisdell (1:CAS); Santa

Cruz Co., Felton, 4-VII-1916 (1:CAS); Siskiyou Co., [locality unspecified] (6:CAS; 1:CNC); Sonoma Co., Duncan Mills, 17-VII-1908, F. E. Blaisdell (1:CAS), Mill Creek, W. of Healdsburg, 15-IV-1950, H. B. Leech (1:CAS); Tulare Co., Kennedy Meadows, 24-I-1972, under rocks, 6,000 ft., D. Giuliani (1 male: IM); [county and locality unspecified] (lectotype female of *Actobius puncticeps* Horn: MCZ; 4:MCZ); Arizona, Coconino Co., Oak Creek Canyon, 28-VI-1950, L. D. Beamer (1 male, 3 females: SMKU).

Remarks: This species might be confused only with *E. pomonae*, but may be distinguished by the characters mentioned under *E. pomonae*. It also bears considerable resemblance to *E. pusio* but is much larger. The ♀ examples from Siskiyou County differ from all others in having noticeably shorter elytra, however the aedeagus of these males does not differ from that of examples from the type locality.

E. fraterculus species group

(Densely-punctate species with broadly-based parameral rami)

9. *Erichsonius fraterculus* (Horn)

(fig. 9)

Actobius fraterculus Horn, 1884, 226 (type locality Michigan); Bernhauer and Schubert, 1914:325; Leng, 1920:106.

Description: Length 3.4 to 3.75mm. Head and pronotum castaneous; elytra ferruginous; abdomen fusco-castaneous; apical margins of abdominal segments scarcely paler; trophi, legs, and antennae ferruginous.

Head quadrate, broadened behind the eyes which occupy only 0.25 of the length of the head. Head more closely punctate than in any of the foregoing species and with squamous microsculpture. Pronotum as broad as head, slightly elongate, narrowed behind, with an irregular row of 10-11 punctures on either side of impunctate median line; with squamous microsculpture. Elytra together scarcely broader than pronotum, longer than jointly broad, 0.15 longer than pronotum; closely, finely punctate. Abdomen closely, finely punctate. Anterior tarsal articles of male not much dilated. Apical notch of sternum VIII of male broad, not very deep. Aedeagus distinct (fig. 9).

Types: I have designated as lectotype a male specimen from Horn's collection in MCZ bearing the following labels: Mic./ Lectotype 3105 [red]/ *Actobius fraterculus* Horn.

Distribution: CANADA: Quebec, Ontario; U.S.A.: Maine, New Hampshire, Massachusetts, New York, Michigan, Illinois.

Records: CANADA: Ontario, York Co., Toronto (2:MCZ); [province, county and locality unspecified, head and pronotum missing] (1:MCZ); U.S.A.: Michigan, Wayne Co., Detroit (10:USNM); [county and locality unspecified] (2 males, 1 female: SMKU; lectotype male of *Actobius fraterculus* Horn: MCZ); Illinois, Champaign Co., Urbana, 1-IV-1888, in driftwood (1:INHS), 7-IV-1892, about stumps in overflowed land, McElfresh (1:INHS); Jo Daviess Co., Galena, 28-VI-1892, Hart (1:INHS) [the last record is from notes in an accession book, checked against an accession no. on a specimen label, and is not certain].

Remarks: I have no doubt that the lectotype selected from Horn's collection is of *E. fraterculus*; Horn gave the distribution of the species as "northern Illinois and Michigan"; I have seen no examples (paralectotypes) from Horn's collection from northern Illinois.

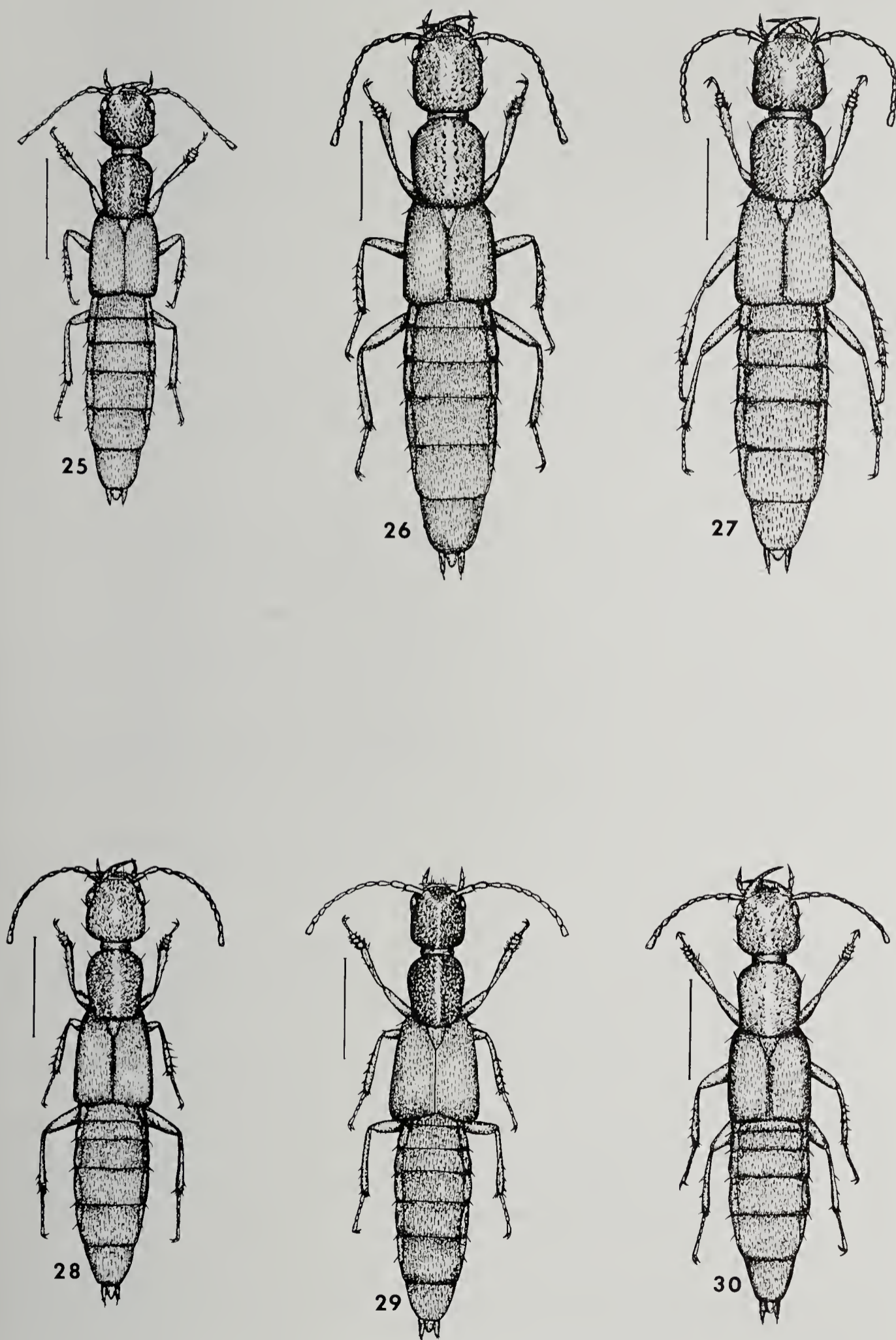


Fig. 25-30 *Erichsonius* adults: 25) *rusticus*, 26) *rosellus*, 27) *alumnus*, 28) *smetanai*, 29) *floridanus*, 30) *civicus*. The scale line represents 1 mm.

10. *Erichsonius inutilis* (Horn)
(fig. 10, 24)

Actobius inutilis Horn, 1884:225 (type locality Michigan); Bernhauer and Schubert, 1914:325; Leng, 1920:106.

Description: Length 3.25 to 3.6mm. Very similar to *E. fraterculus*, but with elytra shorter (by about 0.05) than pronotum, rather less coarsely punctate, slightly darker and with aedeagus distinct (fig. 10).

Types: a female specimen from Horn's collection in MCZ is labelled as follows: Mic./ Lectotype 3104 [red]/ *Actobius inutilis* Horn. I designate the specimen as lectotype of *Actobius inutilis* Horn.

Distribution: CANADA: Quebec, Ontario; U.S.A.: Maine, New Hampshire, Massachusetts, New York, Michigan, Illinois.

Records: CANADA: Quebec, Montreal, 25-VI-1969, E. J. Kiteley (1 male: CNC); Ontario, Russell Co., La Rose Forest, near Bourget, 29-VI-1967, J. M. Campbell (1:CNC); U.S.A.: Maine, Androscoggin Co., Wales, 4-VII-1909, C. A. Frost (1:MCZ); New Hampshire, Belknap Co., Three Mile Island, 7-VI-1904 (1 male: MCZ); Massachusetts, Middlesex Co., Lowell, (2 males, 2 females: SMKU), Dracut, 6-III-1886 (1:MCZ), Tyngsboro, XII-1873 (1:MCZ), Natick, 19-IV-1914, C. A. Frost (1:CNC), 8-V-1932, sifting, C. A. Frost (1:MCZ), 22-IV-1934, sifting, C. A. Frost (1:MCZ), 19-IV-1929, flood debris, C. A. Frost (1:MCZ), 23-IV-1944, swamp grass, C. A. Frost (1:INHS), 1-IV-1945, sifting, C. A. Frost (1 male: MCZ); [county and locality unspecified] (2:MCZ); New York, Chataqua Co., Celeron, 12-IV-1969, ex nest of *Microtus pennsylvanicus*, A. H. Benton (2 males: CNC); Michigan, [county and locality unspecified] (lectotype female of *Actobius inutilis* Horn: MCZ); Illinois, Lake Co., Antioch, 15-X-1942, tamarack bog, Ross and Sanderson (1:INHS).

Remarks: This species could be mistaken for *E. fraterculus* were it not for the elytra being shorter than the pronotum. The aedeagi of the 2 species are distinct but of similar form, that of *E. inutilis* less acuminate and with the paramere broader apically (fig. 10) compared with *E. fraterculus* (fig. 9).

11. *Erichsonius rusticus* Frank, **new species**
(fig. 11, 25)

Description: Length 4.25 to 4.6mm. Head piceous; pronotum, elytra, and abdomen fusco-castaneous; elytral suture and apical margin as well as apical margins of abdominal segments ferruginous. Legs ferruginous but tibiae infusate. Antennae and trophi ferruginous.

Head quadrate, slightly broader behind the eyes which occupy 0.35 of the length of the head; densely punctate with a mixture of large and small punctures and with distinct coriaceous microsculpture. Pronotum broader anteriorly; narrowed behind; elongate; more sparsely punctate than head and with punctures of one side; with coriaceous microsculpture. Elytra finely, densely punctate and pubescent; parallel-sided; not much broader than pronotum. Abdomen linear, finely, densely punctate and pubescent. Anterior tarsal articles of male not much dilated. Apical notch of sternum VIII of male broad, shallow. Aedeagus distinct (fig. 11), the rami of the paramere broad, the median lobe with a ridge-like protuberance at the apex; similar to that of *E. inutilis* (fig. 10).

Types: 10 examples, from CNC, each bearing a label as follows are available: Ill. Kinmundy V-13-1967 J. M. Campbell; 7 of these are males (but 1 with abdomen missing, 1 with head and thorax missing) and 3 are fe-

males; to 1 of the males I have added a label: *Erichsonius rusticus* Frank male J. H. Frank HOLOTYPE. All examples mentioned under records are paratypes.

Type locality: Illinois, Marion Co., Kinmundy.

Distribution: U.S.A.: Illinois, Maryland, S. Carolina

Records: U.S.A.: Illinois, Marion Co., Kinmundy, 13-V-1967, J. M. Campbell (holotype male, 6 males, 3 females: CNC) Maryland, Montgomery Co., nr. Plummers Island, 21-IV-1974, T. L. Erwin and D. R. Whitehead, pool-seep (1 female: JHF); S. Carolina, Beaufort Co., Bluffton, 2-VI-1969, R. W. Sanders (1 male, 1 female: FSC).

Remarks: This species resembles *E. smetanai* and *E. floridanus* in form, but the structure of the aedeagus indicates its close relationship to *E. fraterculus* and *E. inutilis*, from which it may be distinguished by its larger size, darker colour and relatively longer elytra as well as by the form of the aedeagus (fig. 11 cf. fig. 9 and 10). It is smaller than most of the species of the *E. cinerascens* species group and may be distinguished from those of similar size by the broad, shallow, apical notch of sternum VIII of the male and by the distinct aedeagus.

E. cinerascens species group

(Densely-punctate species with narrowly-based parameral rami)

12. *Erichsonius rosellus* Frank, **new species**
(fig. 12, 26)

Description: Length 5.3 to 5.7mm. Head piceous; pronotum piceo-castaneous; elytra and abdomen fusco-castaneous with apical margins of abdominal segments paler. Legs ferruginous, tibiae fusco-ferruginous; antennae fusco-ferruginous with article I and article XI paler; trophi ferruginous.

Head quadrate, scarcely broader behind eyes which occupy 0.3 of the length of the head; densely punctate with mixture of large and small punctures and with squamous microsculpture. Pronotum oval, slightly longer than broad, broadest anteriorly and only slightly broader than head; not as densely punctured as head and with large punctures only; with squamous microsculpture. Elytra longer than jointly broad, broader than pronotum; densely, finely punctate and pubescent. Abdomen densely, finely punctate and pubescent. Anterior tarsal articles of male not much dilated. Apical notch of sternum VIII of male broad and shallow. Aedeagus distinct (fig. 12), intermediate in form between that of *E. rusticus* (fig. 11) and that of *E. alumnus* (fig. 16).

Types: A male specimen in USNM bears the following labels: Roselle Pk, N. J. IV-8-1928/ Ernest Shoemaker collection 1956; I designate this specimen holotype and have added the label: *Erichsonius rosellus* Frank male J. H. Frank HOLOTYPE. All examples listed under records are paratypes.

Type locality: New Jersey, Union Co., Roselle Park.

Distribution: CANADA: Quebec, Ontario; U.S.A.: Maryland, Massachusetts, New York, New Jersey.

Records: CANADA: Quebec, Gatineau Co., Gatineau Park, Blind Lake, 8-VII-1969, J. M. Campbell (2:CNC); Ontario, Kenora Distr., 4 mi. E. of Alcona, 18-VI-1973, J. M. Campbell and R. Parry (2:CNC); U.S.A.: Maryland, Montgomery Co., nr. Plummers Island, 21-IV-1974, T. L. Erwin and

D. R. Whitehead, pool-seep (1 female JHF); Massachusetts, Middlesex Co., Framingham, 23-XI-1911, C. A. Frost (1:MCZ), Cambridge, 1-IV-1924 (1:MCZ), Tyngsboro, IV (1:MCZ), Arlington, 20-III-1924 (1:MCZ), 22-III-1924 (1:MCZ); Norfolk Co., Wellesley, 2-VI-1912, P. G. Bolster (1 female: MCZ); Bristol Co., Fall River, 19-XI-1910, N. S. Easton (1:MCZ); New York, Nassau Co., Sea Cliff, IV (1 male: MCZ); New Jersey, Union Co., Roselle Park, 8-IV-1928, E. Shoemaker (holotype male: USNM).

Remarks: The individuals of this species are the largest of those with closely punctate head, and their size will distinguish them from all similar species except *E. alumnus*, which has a more densely punctate pronotum and in which the head is broader behind the eyes. The specific epithet is derived from Roselle Park, the type locality.

13. *Erichsonius alumnus* Frank, **new species**
(fig. 16, 27)

Description: Length 5.0 to 5.5mm. Head piceous; pronotum dark castaneous; elytra and abdomen fusco-castaneous with apical margin of each abdominal segment paler. Legs ferruginous with tibiae infusate; antennae ferruginous with articles II-XI infusate; trophi pale ferruginous.

Head quadrate, markedly broader behind the eyes which occupy 0.3 of the length of the head; densely punctate with mixture of large and small punctures and with squamous microsculpture. Pronotum slightly longer than broad; broadest anteriorly but scarcely narrowed posteriorly; not broader than head; with large punctures only; with squamous microsculpture. Elytra broader than pronotum, longer than jointly broad; finely, densely punctate and pubescent. Abdomen with segment VI rather broader than other segments; finely, densely punctate and pubescent. Anterior tarsal articles of male not much dilated. Apical notch of sternum VIII of male about as deep as broad. Aedeagus distinct (fig. 16).

Types: 2 male specimens, both originally on card points, on the same pin, from MCZ, bear the following labels: C. A. Frost V Natick 22 1932 Mass/banks of stream/ C. A. Frost Collection 1962. I have dissected the uppermost specimen and remounted it on a card rectangle, and I designate this specimen the holotype and the lowermost specimen a paratype. I have added labels: *Erichsonius alumnus* Frank male J. H. Frank HOLOTYPE and *Erichsonius alumnus* Frank male J. H. Frank PARATYPE. All examples listed under records are paratypes.

Type locality: Massachusetts, Middlesex Co., Natick.

Distribution: CANADA: Quebec, Ontario; U.S.A.: Massachusetts, New York, New Jersey, Maryland, District of Columbia, Virginia, N. Carolina, Georgia.

Records: CANADA: Quebec, Vaudreuil Co., Choisy par Rigaud, 25-VIII-1956, Lindberg (2:CNC); Gatineau Co., Old Chelsea, 23-VI-1966, R. de Ruelle (1:MCZ); Ontario, Russell Co., La Rose Forest, near Bourget, 29-VI-1967, J. M. Campbell (1 male: CNC); U.S.A.: Massachusetts, Middlesex Co., Natick, 2-VI-1929, treading mud by stream, C. A. Frost (1 male: USNM), 22-V-1932, banks of stream, C. A. Frost (holotype male and 1 male: MCZ), Lowell, 23-IX-1888 (1:MCZ), Framingham, 27-V-1944, on mud by brook, C. A. Frost (1 male: CNC); New York, Tompkins Co., Ithaca, Chittenden (1 male: USNM); Wyoming Co., Pike, 12-VII-1901 (1 male: CNC); [county and locality unspecified] (1 female: MCS); New Jersey, Morris Co., Boonton, 12-V-1901 (2 females: USNM); [county and

locality unspecified], M. L. Linnell (1 female: USNM); District of Columbia [locality unspecified] (1 male: MCZ); Maryland, Montgomery Co., Carderock, 20-IV-1974, D. R. Whitehead (2 males, 1 female: JHF), nr. Plummers Island, 21-IV-1974, T. L. Erwin and D. R. Whitehead, pool-seep (1 female: JHF); Virginia, Spotsylvania Co., Fredericksburg, II-V-1891, W. D. Richardson (1 female: USNM); N. Carolina, [county and locality unspecified] (1 male: INHS); Georgia, [county and locality unspecified] (1:MCZ; 1 male, 1 female: INHS).

Remarks: The species is closely related to *E. smetanai* and fairly closely related to *E. floridanus*; its precise relationship to these species, particularly the former, should be examined more closely when additional material is available, because specimens from N. Carolina and Georgia are smaller than those from further north and begin to approach the size of *E. smetanai*. Northern examples are of the size of *E. rosellus* and may be distinguished from that species by the characters mentioned in remarks under *E. rosellus*. It is slightly larger than *E. nanus* and *E. civicus*, with the head broader behind the eyes than either and with the aedeagus distinct (fig. 16 cf. fig. 13 and 18).

14. *Erichsonius smetanai* Frank, **new species**
(fig. 17, 28)

Description: Length 4.5 to 4.75mm. Head piceous, pronotum piceo-ferruginous; elytra fusco-ferruginous with suture and apical margin somewhat paler; abdomen fusco-ferruginous; legs and trophi pale ferruginous, the femora almost luteous, the tibiae, particularly the posterior ones, somewhat infusate; antennal articles I and XI pale ferruginous, II-X infusate.

Head quadrate, not narrowed behind eyes which occupy about 0.3 of the length of the head; densely punctate with a mixture of large and small punctures. Pronotum elongate, broadest anteriorly distinctly narrowed posteriorly, not broader than head; with large and rather close punctures and with squamous microsculpture. Elytra broader than pronotum, longer than jointly broad; finely and densely punctate and pubescent. Anterior tarsal articles dilated in male. Apical notch of sternum VIII of male small, about as deep as wide. Aedeagus (fig. 17) similar to that of *E. alumnus* (fig. 11) but with the apex of the median lobe less pointed and more up-turned.

Types (distribution and records): I have seen only 2 specimens of this species, both males, from CNC, labelled as follows: LA. St. John the Baptist Par. Manchac, 20.III.68 A. Smetana coll./ *Erichsonius smetanai* Frank male J. H. Frank HOLOTYPE; LA. St. John the Baptist Par. Manchac, 20.III.68 A. Smetana coll./ *Erichsonius smetanai* Frank male J. H. Frank PARATYPE.

Remarks: The species is named for Aleš Smetana, the collector of the only specimens I have seen. It is closely related to *E. alumnus*, with a similarly closely punctate pronotum and very similar aedeagus (fig. 17 cf. fig. 16), is distinctly smaller in size, and the head is not distinctly broader behind the eyes. It is distinguished from *E. floridanus*, which also has a closely punctate pronotum, by the slightly broader facies, slightly less elongate head, generally darker colour, slightly larger eyes and distinct aedeagus (fig. 17 cf. fig. 15). It is rather larger and broader than *E. rusticus*, the male with a narrower and deeper notch in the apical margin of sternum VIII. It is con-

siderably more slender than *E. nanus* and *E. civicus*, with the pronotum markedly more densely punctate.

15. *Erichsonius floridanus* Frank, **new species**
(fig. 15, 29)

Description: Length 4.5 to 5.0mm. Head castaneous to piceous; pronotum ferruginous to fusco-ferruginous; elytra pale ferruginous to fusco-ferruginous, each with its disc infusate; abdomen ferruginous; legs and trophi pale ferruginous; antennal articles I and XI pale ferruginous, II-X infusate.

Head slightly longer than broad; parallel-sided; eyes occupying about 0.3 of the length of the head; densely punctate with a mixture of large and small punctures; with squamous microsculpture. Pronotum elongate, broadest anteriorly distinctly narrowed posteriorly; not broader than head; with large punctures; with squamous microsculpture. Elytra broader than pronotum, longer than jointly broad; finely and densely punctate and pubescent. Abdomen linear, finely and densely punctate and pubescent. Anterior tarsal articles somewhat dilated in both sexes. Apical notch of sternum VIII of male small, as deep as broad. Aedeagus distinct (fig. 15), laterally narrowed (compressed) at apex.

Types: The holotype male, from MCZ, bears the following labels: Winter Park Fla. 10-IV E. M. Davis/ *Erichsonius floridanus* Frank male J. H. Frank HOLOTYPE. All examples listed below under records are paratypes.

Type locality: Florida, Orange Co., Winter Park.

Distribution: U.S.A.: Florida

Records: U.S.A.: Florida, Volusia Co., Coronado Beach, 26-II-1939, C. A. Frost (1:MCZ); Sanford, 11-III-1927 (2:MCZ); Edgewater, 28-II-1939, at light, C. A. Frost (1:MCZ); Orange Co., Winter Park, 26-III (1 female), 1-IV (1 male), 10-IV (holotype male) (all MCZ); St. Lucie Co., Capron, 15-IV (1 female: USNM), Lakewood Park, 6-IV-1973, u.v. light trap, J. H. Frank (1 male: JHF); Broward Co., Hollywood, 12-V-1967, D. E. Bright (1:CNC); Dade Co., Homestead, 1-III-1918, A. Wetmore (1 male: USNM), 11-V-1967, D. E. Bright (1:CNC); Highlands Co., Archbold Biol. Sta., 24-IV-1967, D. E. Bright (3:CNC); Lake Istokpoga, 8-III-1968, A. Smetana (1 male: CNC); Putnam Co., Georgetown, C. T. Brues (1 male: MCZ).

Remarks: This species is similar in appearance to *E. rusticus*, but rather paler, larger, and broader, with the head not broadened behind the eyes and with the apical notch of sternum VIII of the male narrower and deeper. It has the pronotum more densely punctate than in *E. nanus* and *E. civicus* and is generally paler and more slender. Several minor differences distinguish it from *E. smetanai*, but the aedeagus is distinctive (fig. 15 cf. fig. 17). The form of the aedeagus may indicate that its phylogenetic position is between *E. nanus* and *E. smetanai*.

16. *Erichsonius nanus* (Horn)
(fig. 13)

Actobius nanus Horn, 1884:225 (type locality Canada); Bernhauer and Schubert, 1914:325; Leng, 1920:106; Smetana, 1965:11.

Description: Length 4.5 to 5.0mm. Head and pronotum piceo-castaneous to piceous, though the head generally slightly darker than the pronotum; elytra and abdomen dark castaneous to fusco-castaneous with ferruginous

pubescence; legs ferruginous, the tibiae slightly infusate; trophi ferruginous; antennae ferruginous with articles III to X infusate, the last article sometimes pale.

Head quadrate, slightly narrowed behind the eyes which occupy about 0.37 of the length; densely punctate with a mixture of large and small punctures; with a trace of coriaceous microsculpture between punctures. Pronotum elongate, about 0.2 longer than broad; marginally broader posteriorly than anteriorly; about as wide as head behind eyes; with punctures of one size only dispersed quite densely (though much less densely than those of head); with coriaceous microsculpture. Elytra longer than jointly broad; slightly broader posteriorly; finely and densely punctate. Abdomen only slightly narrower than elytra; almost linear; finely and densely punctate; apical notch of sternum VIII of male rather small, U-shaped, about as deep as wide. Antennae rather slender. Aedeagus (fig. 13) rather slender, constricted in two places along its length, the apex flattened and recurved; the rami of the paramere slender and parallel.

Type locality: CANADA

Types: A female specimen in Horn's collection, in MCZ bears the following labels: Can./ Lectotype 3103 [red]/ *Actobius nanus* Horn. Although it is a female, I have little doubt of its identity, and I designate it lectotype here. Horn (1884) gave the distribution of the species as Canada, Michigan, and the New England states. The lectotype selected is the only specimen in Horn's collection (in MCZ) from one of these areas. Four additional examples are present in Horn's collection (J. C. Scott in litt.) but all are from New Jersey and only a female among these is intact.

Distribution: ST. PIERRE & MIQUELON: St. Pierre; CANADA: Newfoundland, Nova Scotia, New Brunswick, Quebec, Ontario, Northwest Territories, British Columbia; U.S.A.: Alaska, New Hampshire, Maine, Massachusetts, New York, New Jersey, Illinois, Wisconsin, Washington.

Records: ST. PIERRE AND MIQUELON, St. Pierre, 7-12 VIII-1951, C. H. Lindroth (1:ZMH); CANADA: Newfoundland, North Distr., Gambo, 25-VIII-1949, E. Palmen (1:ZMH); Fogo Distr., Fogo Is., Fogo, 29-VI-1951, C. H. Lindroth (1:CNC), Fogo Is., Seldom, 3-VII-1951, C. H. Lindroth (1:ZMH; 1 male: CNC); Grenn Bay Distr., Springdale, 20-VI-1951, C. H. Lindroth (1:ZMH); Grand Falls Distr., Badger, 25-VI-1951, E. Palmen (1:ZMH); Twillingate Distr., Twillingate, 5-VII-1951, C. H. Lindroth (3:CNC); St. George's Distr., Stephenville Crossing, Harry's River, 6-VII-1949, E. Palmen (1:ZMH), St. Fintan's, 4-VII-1949, C. H. Lindroth (1:CNC); Burgeo and Lapoile Distr., Rencontre West, 16-VI-1949, C. H. Lindroth (1 male: ZMH), Grand Bruit, 13-VI-1949, E. Palmen (1:ZMH); Nova Scotia, Halifax Co., Sackville, 20-V-1951, C. H. Lindroth (2:CNC), Halifax, 18-V-1951, C. H. Lindroth (1:CNC); Cumberland Co., Westchester, 26-VII-1929, C. A. Frost (6:CNC); Inverness Co., Cheticamp, 25-V-1951, C. H. Lindroth (1:CNC); Colchester Co., Truro, Riversdale, 22-V-1951, C. H. Lindroth (1:CNC); Victoria Co., Cape North, 26-V-1951, C. H. Lindroth (3:CNC), Baddeck, 24-V-1951, C. H. Lindroth (1:CNC); Cape Breton Co., North Sydney, 27-V-1951, C. H. Lindroth (2:CNC); Queens Co., Mdway and vicinity, 13-VIII-1912, sifting sphagnum, C. A. Frost (1:MCZ); New Brunswick, Kings Co., Penobsquis, 21-VII-1927, C. A. Frost (1:CNC); Quebec, Gatineau Co., Gatineau Pk., 1 mi. S.W. of Meach Lake, 22-V-1967, funnel extract from deserted beaver lodge, J. M. Campbell (1:CNC), Gatineau Pk., Blind Lake, 8-VII-1969, J. M. Campbell (3:CNC), Gatineau Pk., Ramsay Lake area, 17-VI-1971, J. M. Campbell (2:CNC), Aylmer, 30-VII-1931, L. J. Milne (1:CNC); Montreal, 30-VI-1973, E. J. Kiteley (1:CNC); Vaudreuil Co.,

Choisy par Rigaud, 25-VIII-1954, Lindberg (1:CNC); Ontario, Carleton Co., Mud Pond area, 3 mi. W. of South March, 12-V-1969, R. C. Lawrence (7:CNC), Constance Bay, 17-VI-1967, J. M. Campbell (4:CNC), Bell's Corners, 20-IX-1966, J. M. Campbell (14:CNC), Kinburn, 11-X-1967, J. M. Campbell and A. Smetana (1:CNC), Ottawa, Mer Bleue, 3-VII-1973, Smetana and Davies (3:CNC), Ottawa, J. Horn (4:CNC); Northumberland Co., Trenton, 23-XI-1904, in moss, Evans (3:CNC); Essex Co., Pt. Pelée, 6-VI-1929, L. J. Milne (1:CNC); Hastings Co., Marmora, 30-VII-1952, J. B. Vockeroth (2:CNC); Niagara Co., Ridgeway (1 male: SMKU); Cochrane Distr., Moosonee, 2-VII-1973, Parry and Campbell (1 male: CNC); Kenora Distr., Ignace, 16-VI-1973, Campbell and Parry (1 male: CNC), Moose Creek, 10 mi. S. of Sioux Lookout, 17-VI-1973, Campbell and Parry (11:CNC), Butterfly Lake, 13 mi. S. of Sioux Lookout, 17-VI-1973, Campbell and Parry (5:CNC), Lake of the Woods, 1-VIII-1972, D. E. Bright (5:CNC), 4 mi. E. of Alcona, 18-VI-1973, J. M. Campbell and R. Parry (10:CNC), 109 mi. N. of Pickle Lake, 21-VI-1973, Campbell and Parry (1:CNC); Thunder Bay Distr., 47 mi. S. of Pickle Lake, 22-VI-1973, Campbell and Parry (2:CNC), 52 mi. S. of Armstrong, 27-VI-1973, R. Parry and J. M. Campbell (6:CNC), 42 mi. N. of Hurkett, Black Sturgeon Lake, 26-VI-1973, R. Parry and J. M. Campbell (16:CNC), 4 mi. S. of Savant Lake, 23-VI-1973, Campbell and Parry (2:CNC), 9 mi. E. of Terrace Bay, 14-VI-1973, Campbell and Parry (1:CNC); Algoma Distr., Montreal River Harbour, 7-VI-1973, Campbell and Parry (1:CNC); [county and locality unspecified, "E. Ont."], 1884 (2:CNC); [province, county and locality unspecified] (lectotype female of *Actobius nanus* Horn: MCZ); Northwest Territories, MacKenzie District, by highway, 3.5 mi. S.E. of Ft. Simpson, 21-VI-1972, A. Smetana (5:CNC), Martin River, 10 mi. N.W. of Ft. Simpson, 14-VI-1972, A. Smetana (2:CNC), by highway, 2 mi. S.E. of Ft. Simpson, 11-VI-1972, A. Smetana (3:CNC), Ft. Smith, 5-VII-1950, J. B. Wallis (1:CNC); British Columbia, Vancouver N. Distr., 7 mi. N. of Garibaldi, 29-V-1968, Campbell and Smetana (9:CNC), 6 mi. S. of Whistler's Mt., 29-V-1968, Campbell and Smetana (2:CNC), Comox-Alberni Distr., 48 mi. W. of Alberni, 24-V-1968, Campbell and Smetana (9:CNC), W. Kootenay Distr., 4 mi. W. of Rossland, 9-VI-1968, Campbell and Smetana (13:CNC), E. Kootenay Distr., 10 mi. E. of Rogers Pass, Glacier National Pk., 17-VI-1968, Campbell and Smetana (15:CNC), Skeena Distr., 5 mi. E. of Prince Rupert, 30-VI-1968, Campbell and Smetana (3:CNC), Fraser Valley Distr., 12 mi. E. of Hope, 2-VI-1968, Campbell and Smetana (1:CNC); U.S.A.: Alaska, Anchorage Distr., 15 mi. N. of Anchorage, 9-VII-1955, C. H. Lindroth (1 female: MCZ); Maine, Oxford Co., Paris, 10-VII-1937, C. A. Frost (1 male: CNC); Kennebec Co., Monmouth, 27-VI-1916, C. A. Frost (2:MCZ), 16-VII-1915, C. A. Frost (2:MCZ); Piscataquis Co., Greenville, 17-VI-1921, C. A. Frost (3:MCZ); York Co., Kittery Pt., IX-1909, R. Thaxter (1 male: MCZ); [county and locality unspecified, ex Kaeber collection and Wickham collection] (1:USNM); New Hampshire, Belknap Co., Three Mile Island, 9-VI-1907 (3:MCZ); Massachusetts, Middlesex Co., Framingham, 15-II-1909, C. A. Frost (1 male:MCZ), 15-XI-1941, sifting humus, C. A. Frost (1 female: USNM), 22-III-1946, C. A. Frost (1:CNC), 15-X-1946, C. A. Frost (1 female: IM), Natick, 16-XI-1941, sifting humus, C. A. Frost (1 male: USNM), 23-II-1930, sifting, C. A. Frost (1 female: SMKU), 12-X-1941, sifting humus, C. A. Frost (1 male: MCZ), Arlington, 20-III-1924, P. J. Darlington (1:MCZ), 22-III-1924, P. J. Darlington (2:MCZ), 2-II-1924, P. J. Darlington (1 male: MCZ), Brookline, X (1:MCZ), Tewksbury (1:MCZ), 16-III-1889 (1 male: MCZ), Tyngsboro (2:MCZ), 13-I-1874 (1:MCZ), XII-1873 (4:MCZ), 15-VII-1903 (1:MCZ), 15-XI-1903 (1:MCZ), Tyngsboro, Merrimack River, 25-IV-1901 (1:MCZ), Lowell (1:MCZ), Sherborn, 18-IV-1926, sifting, C. A. Frost (1:MCZ), Cambridge, XII-1873 (3:MCZ; 3:INHS),

I-1872 (1 male: MCZ), 22-XI-1873 (1 male: MCZ), 9-I-1874 (1:MCZ), 11-I-1874 (1:MCZ), I-1874, G. R. Crotch (3:MCZ); Suffolk Co., West Roxbury, 2-V-1920, P. G. Bolster (1:MCZ); Bristol Co., Fall River, 24-VI-1905, N. S. Easton (1:MCZ) [county and locality unspecified] (3 females: SMKU; 3 females: INHS); New York, Orange Co., West Point, 4-VI-1916, W. Robinson (1 male: USNM); Kings Co., Brooklyn, 31-III-1912, E. Shoemaker (1 female: USNM); New Jersey, Cape May Co., Anglesea (1:MCZ); Illinois, Lake Co., Antioch, 15-X-1942, tamarack bog, Ross and Sanderson (1 female: INHS); Wisconsin, Dane Co., 20-IV-1898 (1 male: MCZ); Washington, Whitman Co., Pullman, C. F. Piper (1 male: MCZ).

Remarks: I have seen several specimens of the European *E. cinerascens*, from Germany and England, in USNM; this species is extremely similar to *E. nanus*, and I can find no good characters to distinguish the 2 except the form of the aedeagus. The aedeagus of *E. nanus* (fig. 13) is recurved and more acuminate at the apex than that of *E. cinerascens* (fig. 14). I have seen no males from North America with an aedeagus of the form of fig. 14, so I am inclined to believe that all records of the occurrence of *E. cinerascens* in North America are the result of misidentification. The aedeagi of the 2 species were figured by Smetana (1955); although I find his figures to be rather simplified, I do not doubt the locality records given by him for *E. nanus*, many (but not all) are repeated above as the result of specimens I have examined.

17. *Erichsonius civicus* Frank, **new species**
(fig. 18, 30)

Description: Length 4.5 to 5.0mm. Head piceous; pronotum, elytra, and abdomen piceo-castaneous; legs fusco-ferruginous, tibiae darker; trophi ferruginous; antennae ferruginous with each article except the last somewhat infusate distally.

Head quadrate, somewhat broader behind the eyes, which occupy slightly more than 0.3 of the length of the head; densely punctate with a mixture of coarse and finer punctures and with coriaceous microsculpture. Pronotum slightly broader than head, slightly longer than broad; with coarse punctures only and with coriaceous microsculpture. Elytra broader than pronotum, longer than jointly broad, finely and densely punctate and pubescent. Abdomen linear, somewhat narrowed apically; finely and densely punctate and pubescent. Anterior tarsal articles somewhat dilated in both sexes. Apical notch of sternum VIII of male as deep as broad. Aedeagus distinct (fig. 18), the apex of the median lobe simple, without protuberance, not upturned.

Types: The holotype male in MCZ bears the following labels: Wellesley, Mass. 23-VI '12. Bolster/ Percy Gardner Bolster Coll'n *Erichsonius civicus* Frank male J. H. Frank HOLOTYPE. All examples listed under records, except the female from California, are paratypes.

Type locality: Massachusetts, Norfolk Co., Wellesley.

Distribution: CANADA: Ontario; U.S.A.: New Hampshire, Massachusetts, Rhode Island, New York, Michigan, Illinois, Wisconsin, Maryland, N. Carolina, Georgia, Louisiana.

Records: CANADA: Ontario, Russell Co., La Rose Forest, near Bourget, 29-VI-1967, J. M. Campbell (3:CNC); U.S.A.: New Hampshire, Grafton Co., Rumney, 22-IV-1926, P. J. Darlington (2:MCZ); Massachusetts, Middlesex Co., Newton, 1905 (1:MCZ); Lincoln, 14-19-VI-1970, human dung,

beech-maple forest, S. Peck (1 male: CNC), Stoneham, Middlesex Fells, 29-V-1970, S. Peck (1:CNC) Norfolk Co., Wellesley, 2-VI-1912, P. G. Bolster (1 male, 1 female and 1 ex. with abdomen missing; MCZ), 23-VI-1912, P. G. Bolster (holotype male: MCZ); Suffolk Co., Dorchester, 8-IV-1906 (1 male: MCZ); [county and locality unspecified] (4:MCZ); Rhode Island, Newport Co., Tiverton, 10-IV-1946, N. S. Easton (1 male: MCZ), 12-XI-1949, N. S. Easton (1:MCZ); New York, Nassau Co., Hewlett, 4-V-1924, E. Shoemaker (1 male, 1 female: USNM); [county and locality unspecified] (1 female: USNM); Michigan, Midland Co., 28-VIII-1943, R. R. Dreisbach (1 female: IM); Illinois [county and locality unspecified, "southern Illinois", head missing], V-1891 (1 male: USNM); Union Co., Pine Hills Field Station, 15-22-V-1967, J. M. Campbell (3:CNC); Lake Co., 2 mi. N. of Volo, 29-III-1968, A. Smetana (1:CNC); Maryland, Montgomery Co., Carderock, 20-IV-1974, D. R. Whitehead (1 male: JHF), nr. Plummers Island, 21-IV-1974, T. L. Erwin and D. R. Whitehead, pool-seep (1 female: JHF); Wisconsin, Bayfield Co., Bayfield, H. F. Wickham (1 female: USNM); N. Carolina, Swain Co., Smoky Mts., Bryson City, Deep Creek, 27-VIII-1930, 2,000 ft, P. J. Darlington (1 male, 1 female: MCZ); Georgia, [county and locality unspecified], F. C. Bowditch (1 male: MCZ); Louisiana, Madison Par., Tallulah, 21-III-1934, J. W. Folsom (2 females: MCZ), 19-VI-1934, J. W. Folsom (1 female: MCZ).

Remarks: This species is most likely to be confused with *E. nanus*, but typically is stouter in appearance, and the head is broader behind the eyes. Males may be distinguished easily by the form of the aedeagus (fig. 18), but I have seen a number of examples which might have been confused with *E. nanus* by appearance alone, so that identification of some females may not always be made with confidence. The records from Wisconsin and Louisiana are based only on female examples and would be better with verification by collection of male specimens. A female example labelled "S. Cal"/"F. C. Bowditch Coll." in MCZ is very tentatively ascribed to this species.

ACKNOWLEDGEMENTS

In addition to those individuals who loaned collections to me and are acknowledged in the introduction, I would like to thank Milton Campbell and Aleš Smetana for criticizing the manuscript and D. R. Whitehead for the gift of 8 specimens from Maryland. Thanks are due to numerous individuals, especially my wife, for checking the names of localities in various atlases and maps.

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ADDENDUM

Specimens were recently submitted by R. E. Woodruff, as a part of a survey of the insects of the proposed cross Florida barge canal survey, with the following data: FLORIDA, Marion Co., Lake Eaton, 8-IV-75, blacklight trap, P. C. Drummond.

Erichsonius floridanus Frank. 80 specimens; the largest series seen.

Erichsonius rusticus Frank. 1 male only; the first record for Florida.

